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1973 SWEET CORN CULTIVAR TRIALS GREEN SPRINGS CROPS RESEARCH UNIT

Department of Horticulture

OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER

Wooster, Ohio

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1973 SWEET CORN CULTIVAR TRIALS

GREEN SPRINGS

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Twenty-eight sweet corn varieties were evaluated in replicated trials on sand at the OARDC Green Springs Crops Research Unit in 1973. In addition, some 46 numbered breeding selections and cultivars representing a broad range in adaptability were tested in non-replicated observational plots.

Seeds were planted, four kernels per hill, in hills 18 inches apart on May 15. Plots were single rows 3 feet wide and 32 feet long. Prior to planting, fertilizer had been broadcast and incorporated at the rate of 500 lb. per acre of 5-20-20; at planting, 100 lb. of additional 5-20-20 was banded beside and below seeds. Plants were thinned to two per hill on June 14. Plots were sidedressed with 75 lb. per acre of nitrogen at the 12-inch stage.

Weeds were controlled by an application of Ramrod, 2 days after planting at recommended dosage, and cultivation. Thiodan, Sevin, and Gardona were alternated weekly for insect control. Satisfactory blight control was achieved by the use of Maneb as recommended. Other cultural and pest control measures used were those common to the area. Plots were not irrigated and the crop may have suffered slightly from drought late in the season, as evidenced by poor tip development in several cultivars and experimental selections.

Plots were first harvested on July 24 and twice weekly thereafter until August 16, at which time all entries had been harvested at least once. Most replicated varieties were harvested once when the majority of ears were of approximate commercial maturity and stripped of remaining ears a week later. Ears were counted and weighed with husks on. Ten representative ears per plot were then husked and measured for length and diameter and rated for uniformity of appearance.

Seed Sources

Seed was obtained from the following sources:

A-1	Agway, Inc., Buffalo, N. Y. 14240
A-2	Asgrow Seed Co., Orange, Conn. 06477
B	W. Atlee Burpee Co., Philadelphia, Pa. 19132
H	Joseph Harris Co., Rochester, N. Y. 14624
L	Letherman's Inc., Canton, Ohio 44702
N-1	Northrup-King & Co., Minneapolis, Minn. 55413
N-2	Niagara, FMC Corp., Modesto, Calif. 95618
O	The Ohio Seed Co., West Jefferson, Ohio 43162
R-1	Robson Quality Seeds, Inc., Hall, N. Y. 14463
R-2	Rogers Bros, Inc., Idaho Falls, Idaho 83401
T	Otis S. Twilley Seed Co., Salisbury, Md. 21801
V	Vesey's Seeds Ltd., York, Prince Edward Island, Canada

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Results

Polarvee was ready for harvest 74 days after planting--several days before any other variety (Table 1). However, this cultivar produced the lowest yields of all 28 tested, 1.18 tons per acre of marketable corn. Excessive animal damage and smut accounted in large part for this low yield since only 36 percent of the Polarvee ears were marketable. Ear uniformity was also very low due to variable shape, size, and tip fill.

Morning Sun led in yield among the 70-day cultivars, with 7.19 tons per acre of marketable corn. Ears of Morning Sun tended to be large, uniform, and generally attractive. Sundance was also a promising 70-day variety, with 6.89 tons of marketable ears. Seneca Star, a relatively new variety which performed well in 1973, matured in 76 days and yielded 6.74 tons of marketable ears which were characterized by an attractive yellow color and large, flattened kernels. Earliking (70 days) also showed considerable promise in 1973. Poor tip fill was characteristic of most varieties in 1973, possibly due to dry weather at the time of ear development.

Among the 80-90 day varieties, yields ranged from 6.26 tons of marketable ears for Yukon to 10.83 tons for Gold Crown. Other high-yielding varieties were Bonanza (10.58 tons), Golden Shipper (10.0 tons), and Midway (9.56 tons). Merit, Northern Belle L, Gold Cup, Gold Winner, Golden Queen, and Silver Queen also performed well in 1973. Silver Sensation produced acceptable yields but quality was lacking.

Several of the earlier-maturing varieties, including Polarvee and Royal Crest, were infected with smut to a considerable degree. Corn blight was evident on some cultivars late in the growing season but arrived too late to cause noticeable effects on yields. Populations of aphids and sap beetles were higher than desirable late in the season.

Observational Selections.--Several observational selections produced high yields of good quality ears (Table 2). However, overall merit of the various entries is difficult to determine since plots were not replicated. Further testing is desirable for several promising selections, including Spring White, Earliking, Sprite, NK-199, W-1042, NCX-2004, Tender Sweet, Moonglow, XP-362, and others.

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Table 1.-- Average Yield, Ear Size and General Characteristics of Replicated Sweet Corn Varieties, Green Springs Sweet Corn Trials, 1973

Variety (1)	Source	Days to First Harvest	Harvest Duration Days	Mkt. Yield/A Tons	Doz	%	(2) Tip Cover	Avg. Ear Size Wt. lbs.	Lgth in	Dia in	Lgth/ Dia	Ear (3) Uni-formity	Comments
Polarvee	V	64	12	1.80	540	36.0	3	.34	4.9	1.4	3.46	1	Smut Susc. Racoons
Morning Sun	N-2	70	9	7.19	1704	88.3	3	.69	7.7	1.6	4.60	3	Attractive Color, Poor Tip Fill
Sundance	H	70	9	6.89	2022	90.6	3	.57	7.1	1.6	4.42	3	Very att. Some poor tip fill
Earliking	H	70	6	6.15	1716	84.6	3	.62	7.0	1.6	4.25	2	Racoon damage
Seneca 60-11	R-1	70	6	5.44	1671	65.6	NA	.50	7.0	1.6	4.42	2	Racoons. Poor tip fill.
Spring Gold	H	70	9	5.38	2002	83.2	3	.45	6.6	1.6	4.04	2.5	Attractive yellow. Spiral rows
Royal Crest	H	70	9	4.59	1540	81.3	3	.49	6.6	1.6	4.09	2	Poor tip fill. Smut
Seneca Star	R-1	76	3	6.74	1644	77.7	3	.68	7.6	1.6	4.61	2.2	Attractive yellow. Large flat kernels
Bravo	A-2	76	3	5.58	1414	69.8	3	.65	7.7	1.7	4.38	2.5	Attractive
Merit	A-2	82	4	8.93	1839	84.4	NA	.82	8.4	1.8	4.57	2.2	Attractive large, thick ears
Goldenrod	N-1	82	10	8.75	1911	81.8	2.5	.76	9.1	1.6	5.58	3	Long, thin. Immature
Northern Belle L	H	82	4	8.26	1839	87.9	NA	.75	7.1	1.7	3.98	2	Att. short, thick, Blunt ears
Goldie	N-2	82	4	7.83	1880	77.4	NA	.69	8.3	1.7	4.85	2.5	Att. rich yellow. Poor tip dev.
Top Style	T	82	10	7.64	1562	74.1	3	.80	8.5	1.8	4.70	3	Very nice. Good tip fill
Seneca Scout	R-1	82	9	7.11	1851	80.1	3	.63	7.4	1.6	4.55	2.5	Att pale yellow. Small kernels
Triumphant II	N-1	82	9	6.40	1338	65.0	3	.78	8.3	1.8	4.56	1.5	Pale yellow. Poor tip ear fill
Yukon	N-2	82	4	6.26	1555	79.3	NA	.67	8.8	1.7	5.15	1	Long, thin. Poor tip development
Gold Crown	H	86	9	10.83	2316	82.4	3	.77	8.7	1.7	5.00	2	Attractive long, yellow. immature
Bonanza	T	86	6	10.58	2195	90.0	3	.82	8.9	1.8	4.81	2.5	Large, pale, immature
Victory Golden	A-2	86	6	8.59	1814	78.7	3	.79	7.8	1.7	4.37	2	Attractive
Gold Cup	H	86	4	7.99	2091	84.8	NA	.63	7.5	1.7	4.41	2.5	Att. short, plump ears

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Table 1.-- Average Yield, Ear Size and General Characteristics of Replicated Sweet Corn Varieties, (cont.)
Green Springs Sweet Corn Trials, 1973

Variety (1)	Source	Days to First Harvest	Harvest Duration Days	Mkt. Yield/A Tons	Doz	%	(2) Tip Cover	Avg. Ear Size Wt. lbs.	Lgth in	Dia in	Lgth/ Dia	Ear (3) Uni-formity	Comments
Gold Winner	H	86	4	7.49	1519	77.1	NA	.98	7.8	1.7	4.53	2.2	Very Att. Good Tip dev. shape.
Golden Shipper	N-1	89	3	10.00	2115	88.6	NA	.78	8.4	1.7	4.95	1	Long, thin. Good fill
Midway	A-2	89	3	9.56	1982	85.6	NA	.79	7.9	1.8	4.36	2.5	Nice; Yellow
Silver Sensation	L	89	3	8.70	1835	71.8	NA	.80	5.9	1.3	3.40	2	No promise in 1973, white
Golden Queen	L	89	3	8.47	1465	77.8	NA	.70	8.0	1.7	4.61	2.5	Good yellow variety
Honeycross	B	89	3	8.46	1793	82.6	NA	.78	7.8	1.8	4.23	1	Variable shape, size
Silver Queen	R-2	89	3	8.25	1919	79.7	NA	.71	7.9	1.7	4.64	2.2	Very good white.

(1) Cultivars ranked by days to first harvest and yield/acre in tons
(2) A tip cover rating of 1 indicates exposed tips, 3 indicates at least 1.0 inch cover
(3) General appearance of ears: 1 = Poor; 3 = Excellent

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Table 2.-- Yield, Ear Size, Earliness, and General Characteristics of Unreplicated Observational Entries, Green Springs Sweet Corn Trials, 1973

Entry	Source	Days to First Harvest	MKT. Yield/A			Ear Size, in.			Ear (1) Uni-formity	Height, in		
			Tons	Doz	%	Lgth.	Dia.	Lgth./Dia.		Plant	Ears	
Spring White	H	70	7.06	1397	78	7.1	1.7	4.18	2.5	NA	NA	White, very promising
Sugar & Gold	R-1	70	2.60	946	73	7.0	1.5	4.67	1.5	50	10	Bicolor
Earliking	N-1	70	6.15	1716	85	7.0	1.7	4.12	2.5	60	11	Smut
Yukon	N-2	76	7.68	2208	84	9.0	1.5	6.00	3.0	74	20	
Y W - 311	H	76	7.95	1667	82	7.3	1.8	4.06	2.0	68	11	Some poor fill
Sprite	H	76	6.22	1758	85	7.0	1.7	4.12	3.0	69	14	Bicolored. Good tip fill.
Morning Sun	N-1	76	8.00	1848	90	8.0	1.8	4.44	3.0	72	16	
Buttercorn	A-1	76	5.57	1667	79	6.9	1.7	4.06	3.0+	72	16	Bicolored? Very attractive
Golden Earlipak	O-1	76	5.86	1442	88	8.2	1.5	5.47	3.0	71	12	
N K - 199	N-1	76	7.63	1713	91	8.0	1.7	4.71	3.0+	76	15	Good yellow variety
Seneca X P 192	R-1	76	1.08	361	28	5.5	1.5	3.67	1.0	60	10	90% insect, animal damage
EXP. X P 1329	A-2	76	5.44	1487	99	7.3	1.5	4.87	NA	80	20	
EXP. E B 1672	H	83	3.08	676	55	7.5	1.7	4.41	2.0	76	17	Smut, attractive Low yield
EXP. W H 1312	H	83	4.89	1307	83	6.9	1.7	4.06	1.5	76	17	
EXP. X 281	H	83	8.22	1758	96	7.5	1.7	4.41	1.0	82	22	Large kernels. Thick ears
EXP. W 462	H	83	7.90	1803	95	7.0	1.7	4.12	2.0	76	22	Large kernels. Thick ears
EXP. W 742	H	83	7.73	2073	92	7.5	1.8	4.17	3.0	86	24	Attractive
EXP. W 1042	H	83	8.30	1938	90	7.9	1.7	4.65	3.0	86	28	Promising
EXP. W 1102	H	83	5.54	1307	88	7.6	1.7	4.47	2.5	98	25	
EXP. W H 1302	H	83	3.00	721	80	7.8	1.7	4.59	2.5	76	12	White
EXP. N C X 243	N-2	83	6.71	1442	87	8.9	1.9	4.68	NA	105	33	
EXP. N C X 2004	N-2	83	7.65	1758	90	8.4	1.8	4.67	2.5	90	34	Attractive large ears.
EXP. X P 1335	A-2	83	5.65	1487	92	7.5	1.7	4.41	1.5	78	28	Green ear tips

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Table 2.-- Yield, Ear Size, Earliness, and General Characteristics of Unreplicated Observational Entries, Green Springs Sweet Corn Trials, 1973 (cont.)

Entry	Source	Days to first Harvest	MKT. Yield/A			Ear Size, in.			Ear Uni. formity	Height, in.		
			Tons	Doz.	%	Lgth.	Dia.	Lgth./Dia.		Plant	Ears	
Goldie	A-1	83	5.00	1127	70	8.1	1.9	4.26	3	NA	NA	
Gold Cup	H	83	7.30	2028	92	7.4	1.6	4.63	2.5	NA	NA	Good
EXP. D 292	H	90	8.79	2118	86	7.8	1.7	4.59	2.0	80	16	Tips protrude
Tender Sweet	A-2	90	9.44	1983	91	8.7	1.6	5.44	3.0	88	26	Very promising
Seneca Chief	R-1	90	8.49	2118	92	7.1	1.6	4.44	3.0	78	20	Good
EXP. W 1222	H	90	5.84	1217	96	8.0	1.7	4.71	2.0	84	29	Good tip fill
EXP. W 1732	H	90	7.41	1127	93	7.7	1.8	4.28	1.9	104	36	
Commander	A-2	90	8.33	1622	94	8.3	1.9	4.37	3.0	98	36	Very large ears
Sweet Sue	H	90	6.22	1622	99	7.7	1.7	4.53	1.0	96	33	Bicolored, Poor tip fill
Glacier	H	90	6.71	1487	94	7.9	1.8	4.39	NA	96	38	White
Moonglow	H	90	8.25	1667	98	7.8	1.7	4.59	2.0	86	36	White, large kernels
Silver Queen	H	90	8.54	1893	88	8.2	1.8	4.56	3.0+	96	37	Some bicolor. Good
EXP. W H 1282	H	90	7.71	1307	97	8.5	1.7	5.00	3.0	94	30	
EXP. W H 1460	H	90	5.19	1172	93	8.1	1.7	4.76	1.5	88	34	
EXP. W 2622	H	90	9.36	2389	90	7.9	1.8	4.39	2.0	96	33	White
EXP. W 2632	H	90	7.46	1622	93	8.0	1.7	4.71	NA	96	31	
EXP. X W 452	H	90	10.55	1803	94	9.3	1.9	4.89	1.5	105	36	
Seneca X P 185 A	R-1	90	9.55	1938	99	8.4	1.8	4.67	NA	86	35	Bright yellow. Good fill
EXP. 668	N-1	90	8.65	1667	96	8.3	1.9	4.37	3.0	86	26	
EXP 1791	N-1	90	9.55	1758	99	8.1	2.0	4.05	2.0	90	26	
EXP. XP 362	A-2	90	6.84	1397	97	7.7	1.9	4.05	3.0	86	30	Promising. Good tip fill
EXP. X P 1330	A-2	90	7.11	1442	99	8.0	1.9	4.21	3.0	82	29	
White Jewel	T	92	3.76	946	75	7.2	1.8	4.00	2.5	82	23	White, Tip protrude
EXP. W H 1332	H	93	1.54	315	53	NA	NA	NA	NA	72	13	

(1) General appearance of ears: 1 = poor; 3 = excellent.

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